WEATHER BUREAU STAFF MEETINGS, 1927 AND 1928

By EDGAR W. WOOLARD, Secretary

The regular biweekly meetings of the Scientific and Technical Staff of the Central Office of the United States Weather Bureau, initiated in the autumn of 1923, have been continued on the same plan as heretofore, during the winter of 1927 and 1928. Following is a list of the discussions (asterisks denote speakers not officially connected with the Weather Bureau); a report of the meetings of 1926 and 1927, with references to the reports of the meetings of previous seasons, will be found in the MONTHLY WEATHER REVIEW, 1927, **55**, 238.

October 4, 1927

H. C. Frankenfield. The Mississippi Flood of 1927.

October 19, 1927

H. H. Kimball. The meetings of the *International Geodetic and Geophysical Union* at Prague, and of the *International Commission for the Exploration of the Upper Air* at Leipzig.

November 2, 1927

**Col. E. Gold.* The work of the *International Commission for Synoptic Weather Information.*
**Th. Hesselberg.* On the Energy of Winds.

November 16, 1927

J. B. Kincer. The Weather of 1927.

November 30, 1927

O. L. Fassig. Tropical Air Currents.

December 21, 1927

C. F. Marvin. Improvements in weather service for aviation, agriculture, and commerce.

January 11, 1928

Messrs. *Marvin, Frankenfield, Humphreys.* Report of the meeting of the *American Association for the Advancement of Science* at Nashville.
E. W. Woolard. Report on the meeting of the *American Astronomical Society* at New Haven.

January 25, 1928

A. J. Henry. The winter anticyclone in the Great Basin.

February 8, 1928

Messrs. *Woolard, Humphreys, Weightman, Mitchell,* and *Henry.* Symposium on the cyclone.

March 7, 1928

C. L. Mitchell. Cyclones and anticyclones of the northern hemisphere, January–April, inclusive, 1925.

March 21, 1928

C. L. Mitchell. Forecasts for a week in advance based on northern hemisphere weather maps.

April 4, 1928

**H. L. Dryden.* Wind pressures on structures.

April 18, 1928

A. J. Henry. A review of Sir Napier Shaw's "Manual of Meteorology," Vol. II.

NOTES, ABSTRACTS, AND REVIEWS

A New Handbook of the World's Climates [1] (by Prof. Robert DeC. Ward).—Julius Hann's "Handbuch der Klimatologie" appeared in 1883 as a single-volume publication of a little less than 800 pages. It immediately took its place as the final and authoritative source of information on climate.

The second edition appeared 14 years later and a third edition, much enlarged, 14 years later, having over 1,500 pages and being contained in three instead of a single volume. The time has arrived when a new edition is demanded. Professor Ward remarks:

> It is a great satisfaction to be able to make here, at this meeting of the American Meteorological Society, the first public announcement, in the United States, of the preparation of a new handbook of climatology.
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> This work is to be done under the editorial direction of Doctor W. Köppen, long well known as the meteorologist of the Deutsche Seewarte in Hamburg, a position from which, owing to advancing age, he retired some years ago. His title of admiralitätsrat fittingly recalls his valuable services in marine meteorology. Doctor Köppen is to-day the leading figure in the older school of European meteorologists. * * *
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> With Köppen as general editor, the authoritative position of the new book is a foregone conclusion. Privatdozent Dr. R. Geiger, of the Bavarian Landeswetterwarte, is associated in editorial supervision.
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> Some 25 or more authors are to contribute to the new *Handbuch.* Among these the following may be mentioned: Sir Gilbert Walker (India); Griffith Taylor (Australia and New Zealand); T. Okada (Japan and portions of the East Indies); A. Wegener (Greenland); Karl Sapper (Central America); C. Braak (southeastern Asia and portions of the East Indies); W. Meinardus (Antarctica); K. Knoch (South America); E. Alt (Europe); E. Kuhlbrodt (oceans); L. Berg, A Kaminskij, and E. Rubinstein (Russia and Siberia); A. Wagner (free air); W. Köppen (geographical system of climate).

The plan is to have all the manuscript in the hands of the editor by December 1, 1930. As the various contributions are received from the different authors they will be at once set up in type, and will be issued as they come off the press. They will also be for sale separately. It is expected that these separate sections will appear at different times during the years 1929–33, the date set for the completion of the whole book being 1933. The size of the page will be large octavo, with about 600 words to a page, printed in fairly small but clear type.

Professor Ward himself has been asked to undertake the discussion of the climates of North America (including British North America and Mexico) and of the West Indies. The task is so great and his time so limited that he has requested Prof. Charles F. Brooks, of Clark University, to collaborate with him in the preparation of the manuscript. * * * Three hundred and thirty pages have been allotted for the discussion of North American climatology; of these 150 will be used for obligatory tables and 20 for charts. The text will be printed in English. One of the important features will be a new set of isothermal and isohyetal charts for

[1] Presented before the American Meteorological Society at its April meeting in Washington, D. C., and printed in full in Bulletin Am. Met. Soc. May, 1928, pp. 94–97.

North America as a whole. The lines are to be extended to include Central America and the West Indies.—*A. J. H.*

Hail damage in Iowa (by C. D. Reed).—Annual agricultural census enumerations by assessors give Iowa accurate comparable hail statistics such as are not available in any other State and probably not elsewhere in the world. The question on hail damage has been asked of each farmer in the State, beginning with the crops of 1923.

Five years of data are now available. The total damage reported is as follows:

1923	$2,319,506
1924	6,703,838
1925	7,975,691
1926	2,342,187
1927	5,064,717
Sum	24,405,939
5-year mean	4,881,188

Departure 1927+183,529=+0.4%.

There was considerable discussion during the crop season of 1927 as to the hail damage, compared with other years and with the usual. The above figures show that while the damage of 1927 was 0.4 per cent above the five-year average, in two other years out of five the damage was $1,750,000 to $3,000,000 greater. The damage in 1927 ranged from none in Davis and Dubuque Counties to $442,305 in Clinton County. The greatest damage in a single township was $155,150 in Eden Township, Clinton County. In 1925 the greatest county damage, $592,809, was in Keokuk, and the greatest township damage, $189,230, in English River in that county. In 1927, 664 townships, or 41 per cent of the total number, reported hail damage, while in 1925 the number was 749 or 46 per cent.

Evaporation at Kingston, Jamaica, 1927.—Mr. J. F. Brennan, Government meteorologist for Jamaica, publishes the total daily evaporation for Kingston during 1927. March of that year had a record of evaporating 7.85 inches of water with August a close second, having 7.80 inches. The least evaporation was in November with 3.54 inches.

A rain gauge exposed nearly alongside the evaporimeter registered 34.67 inches while the total yearly evaporation amounted to 69.07 inches, or about twice the measured rainfall.—*A. J. H.*

Sunspots in weather prediction (by Dr. Henry Norris Russell, Princeton Observatory. Reprinted, in part, from Scientific American, June, 1928).—* * * But the public always asks about the weather. Now an enormous amount of work has been done on the question of whether there is any connection between sun spots and the weather. Many competent men have handled it, discussing vast masses of statistics by reliable methods and the upshot of it all is that the influence of sun spots on the weather is exceedingly small.

In some parts of the world it is a little warmer on the average when spots are numerous, in others a little cooler. But "a little" means a fraction of a degree. The labor involved in detecting so minute a change is enormous. One must have observations covering at least four or five spot cycles, that is, more than 50 years, to be sure that one is not misled by chance happenings; and the mere job of taking averages is a big one. Small effects which only come clear if the much larger casual variations due to other causes when an average over many years can be taken, appear sometimes to exist. But they are so small in comparison with the other variations that their influence in determining the type of weather on different days, or even the average weather for a whole year, may safely be ignored.

The other causes are so much more influential that to depend on a study of sun spots to predict weather "is like watching an ant to predict which way an elephant will go." This trenchant phrase, which the writer heard recently from Professor Brown of Yale—as good an authority on such matters as could be found anywhere—summed up the whole situation.

These remarks do not apply to the serious attempts which are being made to investigate a possible connection between the small changes in the amounts of heat which the sun sends to earth (the solar constant) and weather conditions. In some regions where the course of the weather is unusually regular from month to month, such connection may exist, but even here little is known as yet, and it is well to be cautious in prophesying what may or may not happen in the future.

Meanwhile, if someone—usually someone with little mathematical or physical training—attempts to predict weather from sun spots, the rest of us need not take it very seriously. And if he offers to sell these predictions, we may well save our money.

Wind-bracing of tall buildings to be studied (reprinted from Engineering News-Record, April 19, 1928).—A study of data bearing on the problem of wind-bracing of tall buildings is to be carried out through the instrumentality of a research fellowship established at Ohio State University, Columbus, by the American Institute of Steel Construction. One phase of the study will be the observation of stresses in the members of the steel frame of the American Insurance Union tower in Columbus, whose columns during construction were equipped with gauge points to permit measurement of deformations under stress while the building is in service. It is expected that a committee of the Structural Division of the American Society of Civil Engineers will cooperate in studying and interpreting the data obtained through the proposed research work.

Rains improve Hawaii's crop outlook.—The heavy rainfall in all the Hawaiian Islands during the past month has filled reservoirs and irrigation ditches, making the agricultural outlook for 1928–29 crops unsuually good.—*Reprinted from Commerce Reports May 28, 1928.*

Indian monsoon.—In British India the season's monsoon set in last week and broke vigorously and generally as reported by Assistant Trade Commissioner W. L. Patterson in a cable from Calcutta June 15.—*Commerce Reports June 25, 1928.*

Weather in other countries (reprinted from Commerce Reports May 7, 1928).—*Dominican Republic:* * * * The drought continues; it has been regarded as the most severe in years. * * * *Jamaica:* Economic conditions in Jamaica continue favorable notwithstanding the fact that crops may be injured unless persistent drought is soon broken. * * * *Porto Rico:* The continuance of the drought, which shows no signs of breaking has caused serious damage to crops in general. * * *

May weather in the United States 50 years ago.—The weather of the first part of 1878 was unusually warm; with the beginning of May, however, the type changed to cooler rainy weather with heavy rains in the Plains States from the Dakotas to Texas. There were several destructive tornadoes and a number of severe thunderstorms. Light to heavy frost occurred about the middle of the month in the upper Lake region States, New England, New York, New Jersey, Pennsylvania, Maryland, and Virginia, and light snow was reported in the northern border States also in the mountains of Wyoming, Colorado, New Mexico, Utah, and Nevada. On the whole

there was great variety in the weather experienced in various parts of the country—*A. J. H.*

Meteorological summary for Chile, April, 1928 (by J. Bustos Navarrete, observatorio del Salto, Santiago Chile).—The circulation of the atmosphere was characterized by increasing activity; the paths of the depressions had a progressive movement toward the north and with this came the beginning of the rainy season in central Chile.

The depression of the 8th–9th affected conditions in southern and central regions and caused storms of wind and rain in the area from Chiloe to Coquimbo. The heaviest amounts, 4.30 to 5.50 inches, fell in the region between Curico and Talca. In all of that section of the cordillera there were heavy snowstorms which caused considerable damage. Between the 15th and 17th and again on the 18th–19th depressions crossed the southern region. In the first period the storms and rains extended to Talca and the excessive amount of 3.98 inches was recorded at Valdivia on the 16th; in the second period the rain area reached northward to Concepcion and there was another heavy 24-hour amount of 2.32 inches at Valdivia on the 19th. Depressions of minor importance affecting only the southern region, were charted on the following days: 3d–4th, 5th, 21st, and 27th

The important anticyclones were charted as follows: 1st–3d, in the region of Chiloe; 10th–14th, moving from the Juan Fernandez Islands through central Chile toward Argentina; 22d–25th, forming in the region of Chiloe and advancing toward northern Argentina; and, 30th, forming over southern Argentina.

At Santiago the total precipitation for the month was 1.21 inches, while at Valdivia it was 17.57 inches.—*Translated by W. W. R.*

Meteorological Summary for Brazil, April, 1928 (by Francisco de Souza, acting director Directoria de Meteorologia, Rio de Janeiro).—The depressions of the higher latitudes and that overlying the continent were about normal in activity.

The wind movement was lighter than in the preceding month; two storms of very moderate intensity passed over the extreme southern part of the country. The weather was rather unsettled, especially in the south, where precipitation was abundant. Temperatures were somewhat lower. Rainfall was extremely light, averaging 2.80 inches below normal in the northern region, but abundant in the central and southern regions, especially in the latter, where there was an average excess of 2.65 inches.

At some points in the north cotton and cereals were injured by pests or adverse meteorological conditions, but the general condition of the crops was not affected. Good yields of cereals, cotton, and cacao were obtained in the Amazonian region and in the central and southern States. Tobacco is being cut in the southern States. Harvesting of coffee has begun in the central and southern regions; yields are good.

At Rio de Janeiro the weather was fine on all except a few days. The mean cloudiness was slightly below normal and the duration of bright sunshine was 50 hours above the normal amount for the month. Mean maximum and mean minimum temperatures were above normal and there were 13 days on which the temperature exceeded 86° F. The prevailing winds were from the south quadrant; the mean velocity was 11.9 miles per hour and the extreme 44 miles per hour from the south-southeast during a storm in the early afternoon of the 25th.—*Translated by W. W. R.*

BIBLIOGRAPHY

C. FITZHUGH TALMAN, in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

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Memoria sobre la existencia de lluvias periódicas en determinados días del año. Un factor más para la previsión del tiempo. Puerto Bertoni. 1918. 78 p. 24½ cm.

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Klimatologie. Mit einem Anhang: Erdmagnetismus, von J. Maurer. Bern. 1927. xiv, 140, 9 p. 22½ cm. (Bibliog. der schweiz. Landesk., Fasz. IV.)

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Die Niederschlagsverhältnisse der Schweiz ... Zürich. 1925. p. 69–184. figs. plates (fold.) 23 cm. (Pflanzengeogr. Komm. der Schweiz. naturforsch. Gesellsch. Beiträge zur geobotanischen Landesaufnahme. Sonderab. H. 12, Vegetation der Schweiz.)

Eberle, Otto.
Die Verteilung der extremen Regenschwankungen über die Erde. Gotha. 1927. 50 p. plates (fold.) 28 cm. (Ergänzungsh. Nr. 195 zu "Petermanns Mitteil.")

Hellmann, G.
Die Entwicklung der meteorologogischen Beobachtungen bis zum Ende des XVIII Jahrhunderts. Berlin. 1927. 48 p. 27½ cm. (Abhandl. preuss. Akad. der Wissensch. Jahrg. 1927. Phys.-Math. Kl. Nr. 1.)

Hoffmeister, Johannes.
Untersuchung einiger Niederschläge von langer Dauer und weiter Verbreitung in Norddeutschland. Berlin. 1926. 33 p. figs. 31½ cm. (Inaug.-Dissert., Friedrich-Wilhelms-Univ.)

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Myrbach, Otto.
Haben die Leoniden einen Einfluss auf das Wetter? Kijiw. 1927. 11 p. figs. 26½ cm. (Sonderab.: "Inform. bull. des Ukrmets." Bd. 4–5, Jahr 1925–1926.)
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Suzuki, Seitaro.
Fires and the weather. 73 p. figs. plates. 27 cm. (Repr.: Journ. Dept. agric. Kyushu imp. univ., v. 2, no. 1, Mar. 20, 1928.)